

CONSTRUCTION SUBPLAN

1. Purpose. This subplan supplements the guidelines provided in the Quality Management Plan (QMP) for the execution of quality assurance (QA) and quality control (QC) activities in the Engineering and Construction Division. This subplan applies to construction and contract administration activities within the Detroit District and all its area/resident offices. Construction programs include Civil Works, Civil Works Operations and Maintenance, Military Construction (MILCON), Operations and Maintenance (O&M), Military DERP, Hazardous, Toxic, and Radiological Waste (HTRW), and Support for Others (SFO).

2. Applicability. This appendix applies to all elements and personnel within the Detroit District that are responsible for quality control and quality assurance (QC/QA) of construction projects.

3. References

- a. ER 415-1-10, Contract Submittal Procedures, dated 15 April 1997
- b. ER 415-1-11, Biddability, Constructibility, Operability and Environmental Review, dated 1 September 1994
- c. ER 415-1-13, Design and Construction Evaluation, dated 29 February 1996
- d. ER 1180-1-6, Construction Quality Management, dated 30 September 1995
- e. CELRD Circular 5-1-1, Quality Management Plan, dated 10 April 2001.

Definitions

- a. Lessons Learned System. Automated data management system in which deficient items of work on a project are gathered and where recommended solutions are provided to aid in future design and construction to eliminate recurrence.
- b. Peer Review. Quality Assurance Audit performed by the Construction Branch at an Area/Resident Office to share ideas and implement the best construction management practices.
- c. Partnering. An approach to conducting business that focuses on achieving the mutual goals of the customer, contractor/supplier, construction engineer, designer, and project management team.

d. Resident Management System (RMS). Automated construction management system designed to assist the Area/Resident Office and Contract Administration Branch, Construction Section staff in the overall management and administration of a contract.

e. Three-Phase Control. Structured QC/QA system of inspection that divides the surveillance of each definable feature of work into manageable pieces.

5. General. QA functions and tasks are the responsibility of the Engineering and Technical Services (ETS), Engineering and Construction (E&C) Division, Contract Administration Branch. These functions complement the District's vision and strategic focus of providing quality projects and product deliverables with emphasis on our customers' expectation and satisfaction. The primary thrust of our tasks will remain on performing and evaluating our Quality Management Plan to delight our customers with quality projects constructed in accordance with the plans and specifications, within budget, safely, and on schedule. Further supplementing this effort will be ensuring this subplan is consistent with prescribed policies and directives of HQUSACE, our Division, and those of the Detroit District.

6. Responsibilities and Functions

a. District Quality Control Responsibilities. The Great Lakes and Ohio River Division, by the references above, provides directives, guidance and policy for establishing quality management procedures in the execution of project construction by various types of contracts. It specifically directs the District to develop a Quality Management Plan that addresses the quality operations of the District and its functional offices. As given in ER 1180-1-6, the plan will describe such items as projected workload, organization, staffing, position responsibilities, training, pre-award activities, post-award activities, testing, and documentation. Pre-construction activities will also include participating as a member of the Independent Technical Review Team for other District products, i.e. reconnaissance studies, feasibility reports, design analyses and memorandums, DMMPs, and other planning and engineering post-authorization evaluation. Other critical pre-award activities include participating in design review conferences, acquisition planning, plan-in-hand reviews, and Biddability, Constructibility, Operability, and Environmental (BCOE) reviews. Exhibit B-2-1 provides additional guidance for BCOE reviews. Construction phase activities, in the broadest sense, include all those processes used to assure end product quality as envisioned by the plans and specifications.

b. ETS, E&C Division. The construction quality management effort is the responsibility of the E&C Division, Contract Administration Branch. The E&C Division is responsible to the District Commander for staff supervision, assistance, coordination, review and implementation of policies regarding construction work in the Detroit District and serves as the construction technical member of the project management team. In addition, the E&C Division is responsible for construction management and supervision of EPA Superfund projects and work assignments; inspection assistance for HUD; and military DERP projects in Michigan and parts of Minnesota, Wisconsin and Indiana.

c. Contract Administration Branch, Construction Section. The Construction Section is responsible for planning, directing, and coordinating of the quality management activities within E&C Division. It exercises staff level responsibilities on all Area/Resident Offices QC/QA activities.

Major Functions are:

- Plans, coordinates, and manages Construction Quality Management Program.
- Responsible for the coordination and management of the Construction Contract Partnering Program, and all partnering by E&C with sponsors and outside agencies
- Manages DCE reviews and internal peer reviews
- Manages the District's Lessons Learned Database
- Monitors and evaluates CMR performance
- Prepares project scope and resources estimates in support of the PMP
- Works in close liaison and maintains collaborations with other elements, for the purpose of exchanging recommendations on the design or redesign of construction features, and for the purpose of expediting construction work and revisions of schedules
- Prepares FTE projections for activities supervised by the branch, oversees FTE utilization and prepares justified requests for any required FTE adjustments
- Responsible for all construction related reporting within the District
- Exercises administrative control and technical supervision over area and resident offices and is responsible to the E&C Division Chief for the organization, planning and assignment of personnel in these offices and administration on the construction contract work
- Supports the Safety Officer for effective and intelligent application of the safety program
- Responsible for managing, planning, and coordination of Quality Control and Quality Assurance programs for all work performed within E&C Division
- Manages contractor quality training program for the District
- Manages construction S&A rates. Monitors and reports S&A expenditures
- Responsible for coordinating the preparation of construction schedules and S&A estimates for study phase projects as well as construction phase projects
- Responsible for performing BCOE reviews of plans and specifications prior to contract award. Responsible for reviewing plans, specifications, and modifications and making recommendations as to feasibility and methods to be used to meet local conditions and requirements
- Prepares and/or reviews independent Government Estimates for contract modifications
- Participates in A-E pre-selections and selections.
- Serves as a member of the Independent Technical Review Team
- Renders assistance in the interpretation and implementation of regulations
- Coordinates review of shop drawings by other elements
- Manages and administers modifications or changes; and makes recommendations as to feasibility and methods to be used for accomplishing modifications to meet field conditions and requirements of the customer

- Negotiates and participates in the ADR settlement process, as required, for negotiated contracts and modifications thereto
 - Assigns construction technical member for the project management team
 - Serves as a link between various district offices and area/resident offices on all active construction contracts for the purpose of providing fiscal information, construction schedule information, and other technical data needed for input to project management plans and reports.
- d. Area/Resident Offices. The Area/Resident Engineer is responsible to the Chief, ETS for project construction activity performance within the scope of authority assigned to him/her and is directly responsible for all activities at the construction sites. Has direct control and staff supervision of his/her assigned area.

Functions:

- Accomplishes all construction performed under their supervision and inspection in accordance with governing plans and specifications
- Supervises and manages the Area/Resident Office and its personnel
- Supervises and coordinates all administrative functions and field activities
- Inspects all contract work including inspection of contractor's construction operations, materials and equipment which are to be incorporated in construction projects when furnished by the contractor under a construction contract including purchase orders or subcontracts issued by prime contractors
- Inspects hired labor construction as assigned
- Prepares contractor's payment estimates and all hired labor estimates of work accomplished
- Prepares and/or negotiates contract modifications resulting from changed field conditions, engineering design changes or deficiencies, etc., not to exceed authorized monetary limitation of \$100,000
- Maintains proper relations with authorities, guests and customers
- Ensures strict compliance by contractors with all provisions, specifications and drawings on all construction contracts pertaining to the contract work.
- Compiles quantitative data for use in preparation of budget and payment estimates, percentage of job completion and progress payments
- Analyzes and approves contractors' proposed work schedules to avoid potential claims and delays as a result of poor budgeting, impractical work periods and faulty procurement of materials on the part of the contractors
- Ensures progress and completion of contract work and prepares construction progress and completion reports
- Under general guidelines, installs, maintains, and operates instruments for the purpose of collecting technical data required for engineering and design purposes during the construction phase of a project
- Maintains necessary field records and reports
- Assures that acceptable safety standards are maintained

- Complies with security requirements
- Participates in the District Affirmative Action Program
- Maintains close coordination with Government inspectors and contractor personnel to ensure that he/she will be aware of any changed field conditions or design discrepancies which will be reported to proper office for investigation
- Ascertains that labor standards provisions of contracts are being complied with and notifies labor advisor of any real, apparent or anticipated violations
- Coordinates activities to provide Quality Assurance Surveillance to verify all activities of the developer are within the scope of agreements and that Corps structures and facilities are protected at all times
- Provides new employees with orientation concerning standards of conduct, safeguarding of defense information and security, plus providing additional information on safety, labor regulations and construction inspection guides
- Receives submittal registers on ENG Form 4288 from contractors. Assures timely submission of all shop drawings from contractors
- Serves as primary Point of Contact to the Contract Administration Branch, Construction Section's technical member on active contracts being administered in their respective offices
- Reports and submits fiscal data, construction progress and schedule information, and other pertinent technical data needed for input to the project management reports
- Performs delegated Administrative Contracting Officer functions, maintaining contracting technical liaison with Contracting Officer
- Employs RMS for all construction management tasks as included in the system and database software.

7. Quality Assurance Plans

a. Construction Annual Quality Assurance Plan. The District Office Annual QA Plan shall be drafted during the month of December. A Construction Annual Sub-plan will be included to complement the District Annual Quality Assurance Plan. The information included in the District Office Annual QA Plan will be that of a dynamic nature such as anticipated workloads, current and anticipated organizational staffing, and annual training requirements. An outline of the information contained in the annual supplement is included as Exhibit B-2-2.

b. Area/Resident Office Annual Quality Assurance Plan. Annual QA Plans shall be prepared or revised by each Area/Resident Office outlining their management strategies for construction quality management as related to the District Quality Management Plan. These plans shall be supplemented with specific requirements of each project when awarded within the Area/Resident Office's administrative control to include the organization, responsibilities, and authorities of all quality assurance personnel, qualification requirements, and statements regarding the three-phase quality control inspection system. The plans shall be prepared or revised annually during the month of December and integrated to the Construction Annual QA Plan. An outline of the information contained in the annual supplement is included as Exhibit B-2-3.

8. Lessons Learned. The Contract Administration Branch, Construction Section will establish a District-wide lessons-learned database that shall be implemented to capture deficiencies in plans and specifications, and construction issues, problems and solutions. The database will be accessible through electronic media, i.e. web sites, LAN access, etc. Lessons learned provided from each Area/Resident Office shall be reviewed and entered into the District database managed by the Construction Section. The lessons learned database will be available for design and construction personnel, and project management team members during the design and construction phases of projects to ensure these deficiencies are not repeated in future work. The standard operating procedure for the collection and dissemination of lessons learned is included as Exhibit B-2-4. In addition, the Construction Section shall conduct annual post-construction conference to share lessons-learned with all district elements as appropriate.

9. Peer Review. The Construction Section will assemble a District Office QA Team annually. The team will conduct an annual QA review at each Area/Resident Office. The purpose of these visits is to assist Area/Resident Engineers with their respective quality management programs, and to provide a transfer of key information learned District-wide to the Area/Resident Office personnel. The primary focus of the visit will be on management of QA activities rather than technical evaluation of specific problems, although they will also be addressed. Exhibit B-2-5 is the Standard Operating Procedure and Documentation Checklist that will be utilized on QA/Peer Review Visits.

10. Training

a. QA Staff.

(1) The Training Coordinator shall maintain a listing of all training by QA personnel and utilize this information when determining training needed by each individual. A training plan will be developed each year and be considered a supplement to the ETS subplan for that respective year.

(2) Training for all QA personnel shall be related to each employee's Individual Development Plan (IDP). It shall be the responsibility of the supervisor to ascertain the training needs of his or her employees with an eye to current and future work and career development.

(3) Courses that can be given "in-house" (exportable) shall be utilized to the fullest extent possible. Every employee shall attend at least one course per year, depending on funding. It shall be the responsibility of the Construction Branch to oversee and/or conduct the exportable training. The Chief, E&C Division shall approve each year's exportable training program.

(4) Training can take the form of prospect, exportable, correspondence, on-the-job training (OJT), and independent studies where employees use their own initiative and funds.

(5) All professional and non-professional personnel shall pursue registration in their field of endeavor. It is the responsibility of each supervisor to encourage his employees to pursue certification and/or registration.

b. **Contractor Quality Control Personnel.** The contractor quality control personnel shall receive the Construction Quality Management (CQM) Training for contractors administered by the Government. Pursuant to Construction Bulletin 94-20, it is incumbent upon the Corps to certify contractors and potential contractors as having taken the aforementioned training. The Construction Branch is the lead element for this endeavor and is working with contractors that have recently been awarded contracts, as well as other interested contractors, to provide the CQM training. The training is currently being offered semi-annually or on an as needed basis. Mr. Thomas O'Bryan of the Grand Haven Area Office is the POC for this program.

11. Partnering. Partnering shall be employed on designated contracts in which the contractor is agreeable to the concept and principles of partnering for attainment of common goals. The level and option of Partnering will be based upon the value and complexity of the project. Partnering will be formalized by an initial partnering conference at which an agreement shall be drafted as the project charter. This agreement will serve as the road map for all parties on how they will approach the contract to the mutual benefit of all involved. The partnering conferences will be facilitated meetings by either in-house or contract facilitators. Follow-up meetings to the initial partnering meeting will be at the discretion of the partners.

12. Resident Management System. The Resident Management System shall be employed on all construction contracts managed within the Detroit District. This automated documentation system will aid each field office in administratively capturing and connecting each phase of the construction management process to ensure quality, schedules, payments and project documentation are completed.

13. Pre-Award Activities. The quality management of technical products within the District is outlined in the District Quality Management Plan. As part of the review process, it is imperative that personnel with vast knowledge of construction principles and practices participate in the Technical Review of a project as part of the ITR team. This review is in addition to the Biddability, Constructibility, Operability, and Environmental Review performed prior to award of a contract. The BCOE review shall be performed by both District Office personnel as well as Area/Resident Office personnel charged with the administration of the particular contract. During the BCOE process the Area/Resident Office staff also shall conduct "Plan-in-Hand" reviews at the project site to assure any changed site conditions are addressed appropriately.

14. Post Award Activities

a. **QA Surveillance – Contract Administration Branch, Construction Section.** The Construction Section serves as a link between Area/Resident Offices and the District's functional elements. The District functional elements will provide support to all the Area/Resident Offices in pursuit of quality construction. This support will come in the form of technical expertise on design shop drawings, shop fabricated items and installation in the field, materials certifications, coordination with inspection laboratories (WES, CERL, MRD), quarry inspections, contract administration, and policy issues.

b. QA Surveillance - Area/Resident Offices. Contractors and the Government both have a role in obtaining quality construction consistent with the contract requirements. The responsibilities of both parties must mesh and both organizations must work harmoniously.

(1) The contractor or Contractor Quality Coordinator is responsible for producing the product on time and in compliance with the requirements of the contract through the establishment and utilization of a Contractor Quality Coordination (CQC) Plan. This plan must be of the scope and character necessary to achieve the level of quality outlined in the contract documents, performing work in a safe and healthy manner, and producing and maintaining acceptable records of control, inspection and testing activities. QA personnel must review and approve the CQC Plan prior to commencement of work. A CQC Plan checklist to be utilized during the plan review is shown as Exhibit B-2-6 of this subplan.

(2) QA personnel must be thoroughly knowledgeable of contract requirements on each definable feature of work; participate in preparatory, initial and follow-up control phase meetings; make joint inspections with the CQC personnel to evaluate their effectiveness; conduct QA tests to verify CQC testing; review CQC Reports for completeness and accuracy; note and prompt correction of deficiencies and control problems. QA efforts at the preparatory and initial control phases are particularly effective since correction of minor deficiencies at early stages avoids the tendency for them to become magnified later.

(3) The three-phase QC inspection system is the most important aspect of CQC. The most critical function at the commencement of any construction task or activity is the thoroughness in which the contract requirements are understood and implemented on each definable feature of work. This is applicable to both the Contractor and the Government. The preparatory control phase conducted prior to beginning any physical work of a definable feature of work will ascertain that materials comply with specifications and/or approved submittal documents. The initial control phase occurring at the outset of the work placement will establish and achieve workmanship standards at the beginning of physical work for all subsequent work to match. Follow-up control is accomplished on a daily or routine basis. Contractor prepared minutes of preparatory and initial phases will document attendance and content discussed during the meetings.

(4) Government QA personnel must be quick to act when any aspect of the CQC is not working as planned. When CQC fails to achieve the desired results, the following questions must be asked: What caused this to happen? What needs to be improved in the CQC Plan to prevent this from happening again? The answers to these questions should govern your decisions on what changes must be requested in the CQC Plan. The primary responsibility for overall management and control of quality construction lies with the prime contractor. The monitoring of CQC to assure he/she is achieving quality work is the responsibility of Government QA personnel.

c. Testing. QA testing will be performed unannounced, in accordance with applicable test standards, and under any of the following circumstances:

(1) When it is suspected that materials do not meet the contract requirements and/or there are no provisions in the contract for testing;

(2) When the CQC test results indicate failure and the contractor is reluctant to retest/correct the area(s) that have failed;

(3) When the Area/Resident Engineer feels there is the possibility that the results of CQC testing are fraudulent, inaccurate, or when the materials are obviously unsuitable - contrary to any test results;

(4) When periodic verification of CQC tests are conducted. QA testing will include but is not limited to:

- materials testing
- non-destructive weld tests
- hydraulic oil analysis
- paint testing
- electrical systems testing.

15. Quality Indicators. Quality Indicators shall be used by the Construction Branch as a tool to improve construction product quality. Quality Indicators are warning signs of the Contractors Quality Control process weaknesses. If weaknesses are found, actions will be taken by the Area/Resident Engineer to improve the Quality Control system. Below are Quality Indicators that will be monitored:

Testing. Testing will be used a quality indicator as described in paragraph 13c. Failure of tests will require action by the Area/Resident Engineer.

Deficiency List. A list of deficient items constructed by the contractor is kept by the Area/Resident Offices. Any item that makes this list reflects a breakdown of the contractor's quality control. Excessive items on the list will require action by the Area/Resident Engineer.

16. Performance Indicators. CECW-OC Memorandum of 2 May, 1997, Subject: Civil Works Construction Performance Indicators, and CELRD-GL-E-CC 1st Endorsement, identify a list of construction quality performance indicators. These indicators are integrated into the Construction Quality Management Plan.

BIDDABILITY, CONSTRUCTIBILITY, OPERABILITY AND ENVIRONMENTAL REVIEW

1. ER 415-1-11 establishes a system to ensure that the biddability, constructibility, operability, and environmental (BCOE) aspects of a project are considered during design and that those concerns are integrated into the construction procurement documents for all projects. The BCOE review is not a substitute for complete design review for accuracy, adequacy, and interdisciplinary coordination of design documents. However, a quality project requires the cooperation and skills of design, construction, operations, the using agency, and program management personnel throughout all phases of the project development to avoid potential deficiencies before the project is advertised. It is intended that BCOE reviews are fully integrated into the QA/QC process with the understanding that additional personnel outside of the Independent Review Team or the QC team may perform the actual BCOE review.
2. Engineering & Planning Division will coordinate BCOE reviews by district elements with the using agency as part of the Quality Control process. In-house BCOE reviewers will be assigned to A-E QC teams when the design is performed by an A-E. The independent technical review team shown in the Project Quality Control plan should also include a reviewer from Operations, Construction, the user, and other appropriate district elements. As in the above paragraph, this team member, whether for an A-E or In-house design, will coordinate a BCOE review among others for the product as required by ER 415-1-11. Personnel performing the BCOE reviews should understand the influence of design assumptions on construction and operation of a project. In addition, construction and operation personnel familiar with the site or operation of the project should also participate in the reviews. Specialized environmental review may be necessary on some projects otherwise each district will determine the procedures for considering environmental concerns.
3. Two BCOE reviews are required. The first BCOE review will be at the parametric or concept design stage for military projects or during the Feasibility Report or Detailed Project Report for civil works projects or at the fifty percent stage of plans and specifications for Civil Works Operations and Maintenance contracts. At this point, the initial plan-in-hand review of the project is the cornerstone of the BCOE process. Early participation will allow each element to contribute their expertise toward the project thereby enhancing the execution and constructibility of the project. The first BCOE review shall take place at the project site, unless as otherwise jointly approved by the Chiefs of Engineering & Planning Division and Construction-Operations Division to be held in the office or other locations. The second BCOE review will be made at the final design stage at least 30 days prior to advertisement when the plans and specifications are final. The final review package will include complete drawings, specifications and special clauses. The respective QC team member will consolidate all comments for their discipline (construction, operations, or user) and will provide BCOE comments to the QC review team leader. In the case of on-board reviews, the BCOE reviewers should reflect the technical disciplines commensurate with the scope of the work and be familiar

with the project location. In the event a project is delayed for longer than six months an additional review by the BCOE reviewers is required prior to advertisement to consider any new site conditions or changes in life safety requirements.

4. Project Management will ensure that adequate time and design funds, as negotiated with each technical element, are available in the baseline budget. Design and project schedules will reflect these review requirements and review times will not be decreased due to slippage in design unless agreed to by the project team upon completion of the risk assessment for project delivery failure. The project schedule shall identify ITR/BCOE reviews as identifiable activities and milestones along with the associated funds.

5. Prior to advertisement, engineering responsible individual will provide all reviewers with resolution of their respective comments. Back checking of BCOE comments will be accomplished prior to bid opening. The Chief of Construction-Operations Division certification required by ER 415-1-11 will be executed upon completion of the back check and a copy of the certification will be forwarded to the Project Management team leader and Chief of Contracting Division. The BCOE certification will be attached to the product Quality Certification sheet and signed by all designers, reviewers, and functional chiefs.

SUGGESTED OUTLINE DISTRICT OFFICE ANNUAL QA PLAN

- I. PURPOSE AND SCOPE
 - A. ESTABLISHES QA ANNUAL OPERATING PLAN
 - B. PERIOD COVERED

- II. WORKLOAD
 - A. CONTRACTS UNDERWAY
 - B. ANTICIPATED CONTRACTS

- III. ORGANIZATION
 - A. DESCRIPTION
 - B. ORGANIZATIONAL CHART

- IV. STAFFING
 - A. CURRENT
 - B. REQUIRED (KEYED TO WORKLOAD)

- V. TRAINING
 - A. ANNUAL PLAN
 - B. NEEDS ANALYSIS

**SUGGESTED OUTLINE
AREA/RESIDENT OFFICE ANNUAL QA PLAN**

- I. PURPOSE AND SCOPE
- II. REFERENCES
- III. CURRENT PROJECT DESCRIPTIONS AND FACTS
- IV. DUTIES AND RESPONSIBILITIES
- V. SPECIAL CONSIDERATIONS FOR QA STAFF
- VI. DEFICIENCY MANAGEMENT PLAN
- VII. ENGINEERING CONSIDERATIONS AND INSTRUCTIONS TO FIELD PERSONNEL
- VIII. SUPPLEMENTS
 - A. DEFINABLE FEATURES OF WORK
 - B. THREE-PHASE CONTROL SYSTEM
 - C. INSTRUCTIONS TO FIELD PERSONNEL
 - D. SAMPLE FORMS
 - E. SAMPLE CHECKLISTS
 - F. AREA/RESIDENT OFFICE SAFETY POLICY

STANDARD OPERATING PROCEDURE LESSONS LEARNED

1. An automated Lessons Learned database will be maintained by the Detroit District.
2. The Construction Branch will be responsible for maintaining the District's Lessons Learned database. The Branch will designate a POC who will serve as the District's coordinator for this program.
3. Each Area/Resident Office will designate a representative of their office to serve as its lessons learned coordinator for the purposes of gathering lessons learned on all projects within their administrative control.
4. Each Area/Resident Office Representative will be responsible for providing information and data with their lessons learned update on a quarterly basis. These quarterly updates are due to the Construction Branch on 1st day of the following quarter.
5. The Construction Branch POC for the Lessons Learned program will then be responsible for reviewing and coordinating a review with the appropriate technical element prior to approving and incorporating these updates into the District's database.
5. The Chief, Construction Branch will be responsible for ensuring that the appropriate technical elements are aware of the Lessons Learned system and provide the necessary training on accessing the information. Awareness of the system will come in the form of information paper disseminated throughout the District email Bulletin Board. Included in the information paper will be instructions on how to access the system as well as the advantages to having such a resource available. Additionally, the POC will visit each technical element within the District offices to provide a system demonstration and answer any questions the system users may have.

STANDARD OPERATING PROCEDURE DISTRICT PEER REVIEW VISITS

1. Peer Review Visits will be conducted at every Area/Resident Office annually, with the Construction Branch being the coordinating office.
2. Peer Review Visits will be scheduled at least two months in advance.
3. The length of the Peer Review Visit will be one to two days.
4. An Area/Resident Engineer and the Office Engineer (or other designated representative as determined by the Area/Resident Engineer) will accompany the Peer Review team.
5. The Peer Reviews will concentrate on Contract Administration and Quality Management procedures at each office and will include a paperwork review as well as a project site visit.
6. The Peer Review Visit will be documented on the "Detroit District Documentation Checklist" provided as an attachment to this SOP (Exhibit B-2-5).
7. At the conclusion of the visit, the Area/Resident Engineer and Staff will be briefed on the findings and provided a copy of the Documentation Checklist for appropriate action.
8. Correction of documented deficiencies will be commented on in writing by the Area/Resident Engineer and coordinated with Chief, Construction Branch.
9. The Peer Review Visit documentation file will be maintained in the Construction Branch.
10. A consolidated list of comments from each Peer Review Visit will be provided to the Assistant Chief and Chief, Construction-Operations Division.
11. The Documentation Checklist from all Peer Review Visits will be collected and consolidated by the Chief, Construction Branch, and an informational copy will be provided to each Area/Resident Engineer Office.

DETROIT DISTRICT DOCUMENTATION CHECKLIST

(NOTE: This checklist to be used in Peer Review Team Visits, is patterned after similar list utilized by HQUSACE and LRD in their Design/Construction Evaluations)

(Responsible Area/Resident Office) _____ (Date of Visit)

(QA Visit Team Members)

**JOB DATA

(Contract Number)

(Project Name) _____ (Project Location)

(Project Description)

(Award Amount) _____ (Number of Modifications) _____ (Total Amount of Modifications) _____ (Cost Growth %)

(Original Completion Date) _____ (Original Contract Time in Calendar Days) _____ (Number of Days added By Mods) _____ (Current Completion Date) _____ (Time Growth %)

(Construction Representative) _____ (Field Office Project Engineer) _____ (Schedule Completion %) _____ (Actual Completion %)

(Name of Partnership) _____ (Date of Initial Partnership Meeting) _____ (First Day of Physical Work on Site)

**BCOE REVIEWS:

Was a BCOE review conducted by the field office? ()YES ()NO

What disciplines performed the BCOE review? _____

Was adequate time allowed for the field BCOE review? ()YES ()NO

Was feedback received on BCOE comments? ()YES () NO

REMARKS: _____

****QUALITY ASSURANCE:**

Was a copy of Project Management Plan received? YES NO
(These are furnished by PPMD)

Has the F.O. QA Plan been updated within the past year? _____

Was a job supplement to the QA Plan Prepared? _____ YES NO
(Data of Job Supplement)

Do Construction Rep/Proj. Engr. have a copies of QA Plan & Supplement? YES NO

Was the video "A Bridge(or Pathway) To Success" shown to the Contractor? YES NO

Where minutes written of the Coordination Meeting? YES NO

Are Coordination Mtg. Minutes signed by both government & contractor? YES NO

How is QA Testing being accomplished GOVT Commercial Neither

(Commercial Laboratory Name/ Location)

(Date lab inspected by ORD)

Are 3-Phase Control Meetings attended? Never Sometimes Always

Does the Construction Division Rep/Proj. Engr. have a copy of EP 415-1-261? YES NO
(EP 415-1-261 has 4 volumes and is called Quality Assurance Representative's Guide)

Are DCAF Bulletins & Code Forums given as lessons learned to CQC? YES NO

Is QA Report content ... Good Adequate Poor

Are QA Reports initialed? YES NO
(ER 1180-1-6)

Is QA being performed at fabrication shops for items constructed off-site? YES NO

Are these visits to off-site facilities coordinated with Resident Offices and other functional elements for support? YES NO

REMARKS

****QUALITY CONTROL (Contract Section 01440)**

Was QC Plan submitted & accepted prior to the start of physical work? YES NO

Is the QC Organization shown in the contractor's QC Plan? YES NO

Are Qualification of QC personnel given? YES NO
(Must include supplemental QC personnel an back-up QC System Manager)

Does the QC System Manager meet the qualifications in the Contract? YES NO

Are delegation letters included in the QC Plan? YES NO
(Must also include delegation letters to supplemental personnel as well as the QC System Manager)

Are the Submittal procedures described in the QC plan? YES NO

Are the Definable Features of Work identified in the QC Plan YES NO

Are the 3-Phase of Control discussed in the QC Plan? YES NO

Is the Deficiency Tracking System described in the QC Plan? YES NO

Is an updated Deficiency List submitted monthly? YES NO

Are planned QC testing identified in the QC Plan? YES NO

Who is the QC Testing Laboratory? _____

ORD)

(Date lab Inspected by

Are the QC reports made daily? YES NO

Is report submitted the next day? YES NO

Are Preparatory & Initial Control Phases Minutes attached to the QC Reports? YES NO
(Must be one for each Definable Feature of Work)

Are QC Test reported and results interpreted? YES NO

Are Daily Safety Inspections made of work site and recorded on QC Report? YES NO
(EM 385-1-1.01.A.08.b.)

Are QC activities for off-site fabrication addressed? YES NO

Is the QC Report content.....Good Adequate Poor

REMARKS _____

****CONTRACTOR'S SAFETY & OCCUPATIONAL HEALTH:**

Was a Accident Prevention Plan submitted? YES NO
[Contract Clauses –ACCIDENT PREVENTION paragraph(f)(1)]

Was the Accident Prevention Plan Accepted prior to work starting? YES NO
[Contract Clause—ACCIDENT PREVENTION PAR.(F)(1),and EM 415-1-1-01-A-07]

Was an Accident Prevention Meeting held with the government? YES NO
[Contract Clause – ACCIDENT PREVENTION par/(f)(1),and EM415-1-2601,Section 9,par 9-1]

Are minutes of this Pre-Construction Safety Conference on file? YES NO
[EM 415-1-260 Sec.9 par 9-4c, and Appendix C]

Are Activity Hazard Analysis prepared prior to each major phase of work? YES NO
(EM385-1-1,01 A 09 0)

Are Employee Initial Indoctrination conducted and documented? YES NO
(EM 385-1-1,01 B)

Are Weekly Meetings for all construction workers being accomplished? YES NO
(EM 385-1-1,o.B03.a.)

Are monthly Supervisor Meetings being held? YES NO
(EM 385-1-1 01 B 04)

Are Material Safety Data Sheets (MSDS) available at the work site? YES NO
(EM 285-1-1 010B 04)

How is the Construction job site housekeeping? Excellent Good Poor
(Contract Clause –Cleaning Up, and EM 385-1-1,14C)

Is LRD Form 892 being used? YES NO
(LRD Form 892 is a Safety Inspection Checklist For Construction Equipment i.e. Cranes, Shovels, Derricks, Pavers, Loaders, Dump Trucks,, And Similar Heavy Equipment) (ORD Form is subject of All Areas Engineers Memorandum, 3 Aug 90)

REMARKS AND/OR SAFETY COMMENTS--

****SAFETY & OCCUPATIONAL HEALTH AT THE FIELD OFFICE:**

Does field office have an Accident Prevention Plan? YES NO
(EM 385-1-1.A.05.)

Are Activity Hazard Analysis included in the plan? YES NO
(EM385-1-1.01.A.06 &01.A.10; and All Area Engineers Memorandum, 14 Jan 91)

Have new employees received the Safety Indoctrination? YES NO
(EM 385-1-1.01.B)

Have all employees taken Defensive Driving Refresher in the last three years? YES NO

Are employees attending Safety Training at least monthly? YES NO

Where Job Site Safety Briefings given before team went on construction sites? YES NO
(All Area Engineers Memorandum, 17 Mar 93, SUBJECT: Job Site Safety Briefings)

REMARKS

**** MISCELLANEOUS:**

Does field office have a current MOU (s) with its customer (s)? YES NO
(MOU is a Memorandum of Understanding, ER 415-345-38, par 4; and All Area Engineers Memorandum, 1 Nov 89)
(HQUSACE wrote up the District because current facility commanders knew nothing about this document)

REMARKS

CONTRACTOR QUALITY CONTROL PLAN EVALUATION

1. Contract DACW69-__-__-_____, _____

2. Date of original plan ___ or revision ___ being evaluated: _____

3. Evaluation (check "YES" only if item is addressed and in compliance):

a. Organization: YES NO NA

(1) Lines of authority identified
by organization chart _____

(2) Acknowledgment that CQC staff
shall conduct 3-phase inspections
or all features _____

(3) CQC staff reports to project
manager someone higher in
the organization _____

(4) Staff adequately sized for
project _____

(5) Alternates identified _____

(6) Comments on organization: _____

b. Personnel and assignments (for each person assigned a QC function):

YES NO NA

(1) All personnel hired by/work for
prime _____

(2) Qualifications (resume of
training and experience)
furnished for each person _____

(3) Duties of each clearly defined _____

- | | | | |
|--|-------|-------|-------|
| (4) Responsibilities clearly defined | _____ | _____ | _____ |
| (5) Authorities clearly defined | _____ | _____ | _____ |
| (6) Deficiency identification, correction,
and documentation responsibilities defined | _____ | _____ | _____ |
| (7) Comments on personnel and assignments: _____ | | | |

c. Letter of responsibilities and authorities addressed to the QC manager:

- | | YES | NO | NA |
|--|-------|-------|-------|
| (1) Copy furnished | _____ | _____ | _____ |
| (2) Signed by authorized firm official | _____ | _____ | _____ |
| (3) Adequately addresses authorities
and responsibilities | _____ | _____ | _____ |
| (4) Comments on letter content: _____ | | | |

d. Submittals (for prime, and all subcontractors, fabricators, suppliers, and purchasing agents):

- | | YES | NO | NA |
|---|-------|-------|-------|
| (1) Management procedures: | | | |
| (a) Submittals manager identified | _____ | _____ | _____ |
| (b) Manager's duties identified | _____ | _____ | _____ |
| (c) Certification authority
identified | _____ | _____ | _____ |
| (d) Subs submitting through
prime | _____ | _____ | _____ |
| (2) Scheduling procedures: | | | |
| (a) Initial register addressed | _____ | _____ | _____ |
| (b) Register related to schedule | _____ | _____ | _____ |
| (c) 60-day interval updates addressed | _____ | _____ | _____ |

(3) Comments on submittals: _____

e. Control testing procedures	YES	NO	NA
(1) Definable features	_____	_____	_____
(2) Three-phase inspection procedures addressed	_____	_____	_____
(3) QC laboratory identified	_____	_____	_____
(4) Specified tests, specification, and personnel or lab responsible listed	_____	_____	_____
(5) Testing frequencies listing	_____	_____	_____
(6) Qualifications of staff adequate for control and test requirements	_____	_____	_____
(7) Comments on testing procedures:	_____		

f. Reports	YES	NO	NA
(1) Reporting procedure addressed (Including off-site fabrication)	_____	_____	_____
(2) Form for documenting preparatory inspections furnished	_____	_____	_____
(3) Form for documenting initial inspections furnished	_____	_____	_____
(4) Forms furnished for each specified test as appropriate	_____	_____	_____
(5) Comments on reports:	_____		

g. Daily report form	YES	NO	NA
(1) Space for date and report number	_____	_____	_____
(2) Space for contract and project	_____	_____	_____
(3) Space for describing weather, temperature and precipitation	_____	_____	_____
(5) Space for listing contractor, subs and areas of responsibility	_____	_____	_____
(5) Space for listing work performed.	_____	_____	_____
(6) Space for inspections and results (Including off-site fabrication)	_____	_____	_____
(7) Space for tests performed and results	_____	_____	_____
(8) Space for verbal instructions	_____	_____	_____
(9) Space for remarks.	_____	_____	_____
(10) Space for safety comments	_____	_____	_____
(11) Contractor's certification stated	_____	_____	_____
(12) Space for QC Manager's signature	_____	_____	_____
(13) Comments on daily report form _____			

4. Evaluator: _____ Date: _____